

Bloomfield

Bloomfield Avenue (Route 189) and Park Avenue (Route 178) Intersection – Road Safety Audit

November 3, 2016





Acknowledgements:

OFFICE OF INTERMODAL PLANNING BUREAU OF POLICY AND PLANNING CONNECTICUT DEPARTMENT OF TRANSPORTATION

With assistance from AECOM Transportation Planning Group

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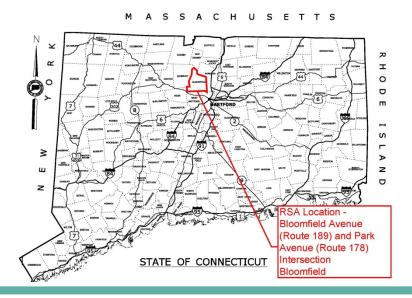
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The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at selected locations. An RSA is a formal safety assessment of the existing conditions of walking and biking routes and is intended to identify the issues that may discourage or prevent walking and bicycling. It is a qualitative review by an independent team experienced in traffic, pedestrian, and bicycle operations and design that considers the safety of all road users and proactively assesses mitigation measures to improve the safe operation of the facility by reducing the potential crash risk frequency or severity.

The RSA team is made up of CTDOT staff, municipal officials and staff, enforcement agents, AECOM staff, and community leaders. An RSA Team is established for each municipality based on the requirements of the individual location. They assess and review factors that can promote or obstruct safe walking and bicycling routes. These factors include traffic volumes and speeds, topography, presence or absence of bicycle lanes or sidewalks, and social influences.

Each RSA was conducted using RSA protocols published by The Federal Highway Administration (FHWA). For details on this program, please refer to www.ctconnectivity.com. Prior to the site visit, area topography and land use characteristics are examined using available mapping and imagery. Potential sight distance issues, sidewalk locations, on-street and off-street parking, and bicycle facilities are also investigated using available resources. The site visit includes a "Pre-Audit" meeting, the "Field Audit" itself, and a "Post-Audit" meeting to discuss the field observations and formulate recommendations. This procedure is discussed in the following sections.



1 Bloomfield RSA

The Town of Bloomfield submitted an application to complete an RSA at the intersection of Bloomfield Avenue (Route 189) and Park Avenue (Route 178) and the surrounding downtown area to improve safety for pedestrians and bicyclists travelling in the area. This intersection is located adjacent to the Town Center and is surrounded by a mix of commercial and residential land uses. As the intersection of two minor arterial roadways, this intersection experiences moderate peak period traffic volumes and peak period congestion. The intersection and its surrounding areas have no dedicated bicycle facilities and limited bicycle accommodations, which results in very low bicycle usage through the Town Center. The area has pedestrian accommodations, some of which are outdated and in need of maintenance. There are however gaps in the existing sidewalk and areas where additional sidewalk may be warranted, particularly in light of new developments planned and currently under construction in the Town Center. These factors have created an impetus to improve safety and accessibility for pedestrians and cyclists through this area.

The Town of Bloomfield's application contained background information on the area and a description of the corridor. The application is included in Appendix A.

1.1 Location

The RSA site is the Bloomfield downtown area (Figure 1), with focus on the intersection of Bloomfield Avenue (Route 189) and Park Avenue (Route 178). Figure 2 shows the study area in a regional context. The Average Daily Traffic (ADT) on Route 189 is 9,300 vehicles per day (vpd) south of the intersection and 9,700 vpd north of the intersection. The ADT on Route 178 is 9,260 vpd east of the intersection and 10,100 vpd west of the intersection. Bloomfield Avenue and Park Avenue both consist of a single 12-foot wide lane in each direction, separated by a double yellow center line. There are striped shoulders on each side of the road, with widths that vary from 2 to 8 feet.

There are several signalized intersections within the study area. Although the focus of this RSA is on the signalized intersection of Route 189 and Route 178, the intersection of Wintonbury Avenue and Route 189 (Tunxis Avenue) was also considered prominently because it is so close. These two signals are coordinated due to their proximity (approximately 200 feet apart).

Route 178 intersects Route 189 at an angle, creating a large intersection and adding complexity to walking and bicycling maneuvers through the area.



Figure 1. Intersection of Route 189 and Route 178, Bloomfield

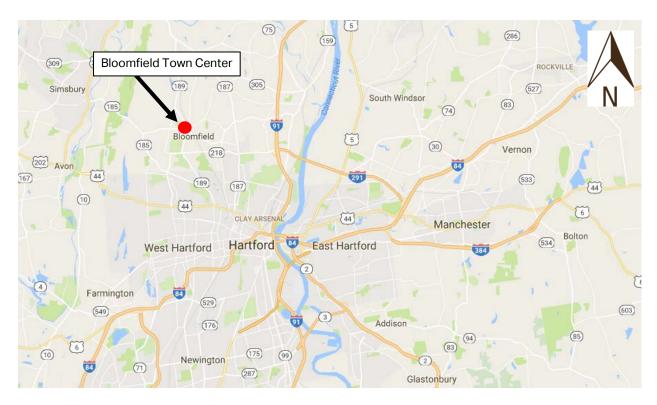


Figure 2. Study Area - Regional Context

2 Pre-audit Assessment

2.1 Pre-audit Information

The intersection of Bloomfield Avenue (Route 189) and Park Avenue (Route 178) is located in the center of Bloomfield. There are several facilities in the downtown area surrounding the intersection that generate pedestrian traffic, including the High School, the public library, town offices, and several business and retail establishments.

The crash history at the intersection is moderate and there were no accidents involving pedestrians or bicyclists between 2012 and 2014 (Table 1 and Table 2). Figure 3 displays crashes that occurred in this area during 2015. There were nine crashes that caused injuries and a high percentage of crashes (55%) were rear-end type crashes.

Severity Type	Number of	Crashes
Property Damage Only	40	82%
Injury (No fatality)	9	18%
Fatality	0	0%
Total	49	

Table 1. Crash Severity 2012-2014

Source: UConn Connecticut Crash Data Repository

Manner of Crash / Collision Impact	Number of Crashes		
Unknown	0	0%	
Sideswipe-Same Direction	3	6%	
Rear-end	27	55%	
Turning-Intersecting Paths	3	6%	
Turning-Opposite Direction	7	14%	
Fixed Object	4	8%	
Backing	0	0%	
Angle	3	6%	
Turning-Same Direction	1	2%	
Moving Object	0	0%	
Parking	0	0%	
Pedestrian	0	0%	
Overturn	1	2%	
Head-on	0	0%	
Sideswipe-Opposite Direction	0	0%	
Miscellaneous- Non Collision	0	0%	
Total	49		

Table 2. Crash Type 2012-2014

Source: UConn Connecticut Crash Data Repository

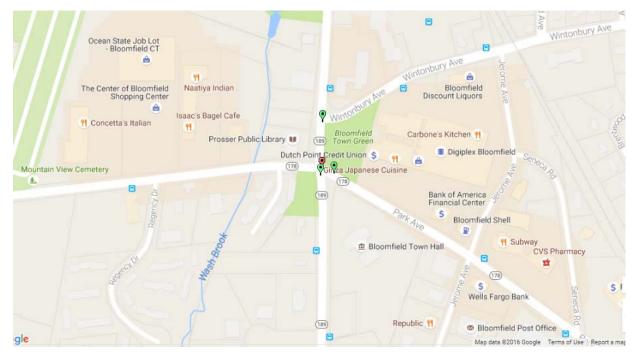


Figure 3. Crashes that Occurred in 2015

Source: UConn Connecticut Crash Data Repository

Two plans were recently adopted by the Town that stress the need for improved pedestrian and bicycle connectivity within the Town Center: the Plan of Conservation and Development and the Bloomfield Center Plan. In line with the goals of these plans, the Town of Bloomfield would like to make the RSA area more accommodating to pedestrians and cyclists, and to plan proactively for the future of the Town, which includes a growing mix of complementary residential and commercial uses within the Town Center.

The 2013 Bloomfield Center Plan identified over 200 existing commercial establishments and 315 existing apartment and residential condominium units within the Bloomfield Center District, 134 of which are designated for elderly housing. There are an additional 54 condominium units directly adjacent to the Center District on Woodland Avenue (and within 0.5 miles of the Route 178/Route 189 intersection). Construction of an additional 215 apartment units within the Town Center is slated to begin in spring of 2017; and an additional 180 units have master plan approval. This growing mix of complementary residential and commercial uses presents a significant opportunity to increase pedestrian and cyclist activity within the Town.

Figure 4 and Table 3 summarize the roadway geometrics in the study area.

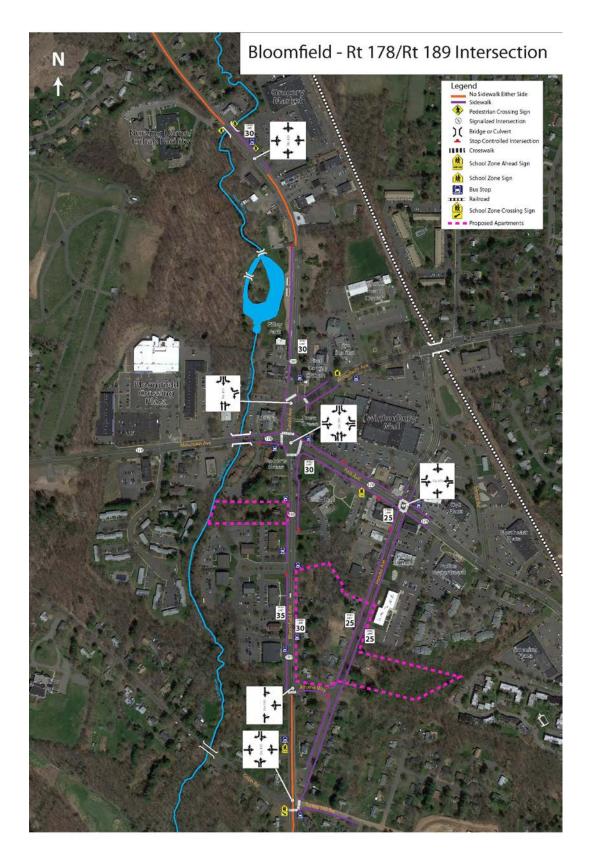


Figure 4. Route 189 and Route 178 Geometrics

Bloomfield - Bloomfield Avenue/Park Avenue Intersection Street Inventory

						Sidewalk					Ram	ps
Street	Route	Lanes	Avg. Lane Width	Side	Туре	Width	Condition*	Curb	Parking	Shoulder	Exist	Compliant
Bloomfield Avenue	Route 189	1	12'	NB	Concrete	6'	Poor	Asphalt	No	4-8'	Yes	No
		1	12'	SB	Concrete	6'	Poor	Asphalt	No	4-8'	Yes	No
Park Avenue	Route 178	1	12'	EB	Concrete	5'	Fair	Asphalt	No	1-2'	Yes	Some
		1	12'	WB	Concrete	5'	Fair	Asphalt	No	1-2'	Yes	Some
Jerome Avenue		1	11'	NB	Concrete/	3-4'	Fair	Asphalt	No	2-4'	Yes	Some
		1	11'	SB	Asphalt	3-4'	Fair	Asphalt	No	2-4'	Yes	Some
Seneca Road		1	12'	NB	No	N/A	N/A	Asphalt	No	1-2'	No	N/A
		1	12'	SB	No	N/A	N/A	Asphalt	No	1-2'	No	N/A

^{*}CONDITION – "Good" is Serviceable Condition that meets current design standards. "Fair" is generally serviceable, but may need minor repairs, or may not completely align with current design standards. "Poor" is not serviceable, and generally inadequate for continued long-term use.

Table 3. Street Inventory

2.2 Prior Successful Efforts

There are a number of past and on-going efforts to improve safety and accessibility in the Bloomfield Town Center. In 2013, CTDOT completed an intersection improvement project at the intersection of Route 189 (Bloomfield Avenue) and Gabb Road/Jerome Avenue/Turkey Hill Road, just south of the intersection of Route 189 and Route 178. The project improved safety at the intersection and also improved pedestrian facilities in the area. CTDOT is also in the early stages of designing potential roundabout alternatives for the intersection of Route 189 and Route 178.

The Town recently completed improvements at Filley Park on Route 189, just north of the intersection with Route 178. Additional sidewalks were constructed on the west side of Route 189 at the park as part of this project. The Town has also completed a plan to renovate the Town Green, including providing more functional sidewalks for pedestrians.

The East Coast Greenway is currently planned to pass through Bloomfield just east of the downtown area. This presents an opportunity to connect to the bike/pedestrian network in the Town Center to attract additional bicyclists and pedestrians to the downtown area.

2.3 Pre-Audit Meeting

The RSA was conducted on November 3, 2016. The Pre-Audit meeting was held at 8:30 AM in the Town Hall located on Bloomfield Avenue in Bloomfield.

The RSA Team was comprised of staff from AECOM, staff from CTDOT, and representatives from Bloomfield departments, including the Town Engineer, Public Works Director, Town Council, Police Department, Planning and the Economic Development Committee. The complete list of attendees can be found in Appendix B.

Several items were presented for general information prior to conducting the Audit in the field:

- There is a new apartment building that will have over 200 units currently under construction just south of Town Hall.
 - This development has the potential to increase pedestrian traffic in the Town Center.
 - As part of the construction, the developer will construct sidewalk on the east side of Route 189, closing the existing gap.
 - There are also about 180 additional units proposed for future development adjacent to this site.
- There are several CT Transit bus stops in town, including two sheltered bus stops in the downtown area.
- Bicycle activity is very low in the downtown area, possibly due to a lack of bicycle amenities.

- The East Coast Greenway is proposed to be constructed on the existing railroad rightof-way, just east of the downtown area.
- The Town does not currently have a formal bike or pedestrian plan; however, the Economic Development Commission has looked into the possibility of a formal plan.
- There is not a significant crash history in this area.
- There is an anticipated library improvement project in the Town Center.
- Improvements have been made to Filley Park and additional improvements are scheduled for construction.
- A multi-year development to improve the Town Green is expected to begin next year.
- There is demand for sidewalk connectivity to the north on Route 189, mainly due to the presence of a grocery store.
 - o There are several driveways on the east side of Route 189, just south of the grocery store, which could create a challenge for any new sidewalk.
 - o The Town would like to focus on completing sidewalk on the west side of Route 189 first and eventually have sidewalk on both sides of Route 189 to the grocery store.
 - o Due to the gap in sidewalk, pedestrians currently walk in the street.
- In general, there is a need to improve sidewalk connectivity in the downtown area.
- There is a narrow bridge on Route 189 south of the RSA area that does not have sidewalks or shoulders.
 - The Town would like to have this bridge replaced by CTDOT.
- Much of the existing sidewalk is in need of maintenance and repair.
 - The downtown area may be in better condition than some of the other areas around town.
- Additional bike and pedestrian traffic is anticipated in the future.
- There is elderly housing near the intersection of Route 189 and Route 178.
- There is a daycare at the First Congregational Church at the corner of Route 189 and Wintonbury Avenue, and a CREC school on Turkey Hill Road.
- High traffic speeds in the RSA area were noted, as well as a general lack of awareness for pedestrians.
- A new signal at the intersection of Crestview Drive and Route 178, near the High School, is proposed and currently in design.

3 RSA Assessment

3.1 Field Audit Observations

Intersection of Route 189 and Route 178 and adjacent area:

- A popular illegal mid-block crossing is often made from in front of Town Hall across Route 178 to the Wintonbury Mall (Figure 5).
- Route 178 has 12-foot lanes in each direction with a one to two foot shoulder.
- The intersection has long crosswalks, with the longest being 93-feet long.
- The all-red exclusive pedestrian phase is required due to the skewed geometry of the intersection and potential vehicle-pedestrian conflicts it creates. The exclusive phase is approximately 34 seconds long, which is sufficient for the crosswalk lengths, but this increases vehicle delays during peak periods.
- The intersection does not have detectable warning strips, audible pushbuttons or countdown pedestrian signals (Figure 7; Figure 10).
- Catch basins around the intersection are the old style grate that is not bike friendly (Figure 6).
- Crosswalks in the intersection are faded (Figure 8).
- Sidewalk widths at the intersection are 4-5 feet.
- The crosswalk at the Wintonbury Avenue intersection is diagonal and is 74-feet long (Figure 9).
- Several of the handicap ramps and the sidewalks are in poor condition (Figure 9; Figure 10).



Figure 5. Popular mid-block crossing location on Route 178



Figure 6. Catch basin grate at intersection



Figure 7. Pedestrian pushbutton and signal

 Bloomfield Avenue south of the intersection consists of 12-foot lanes in each direction with shoulders that vary from 4 to 8 feet.

Downtown Area:

- Jerome Way consists of 11-foot lanes in each direction with 4-foot shoulders.
- Jerome Avenue consists of 11-foot lanes in each direction with a 2 to 4 foot shoulder and a 3 to 4 foot sidewalk that varies between concrete and asphalt. There is a snow shelf of varying width between the street and the sidewalk (Figure 13).
- There is a 5-foot wide concrete sidewalk on Park Avenue (Route 178) with a snow shelf.
- There is no sidewalk on Seneca Road, which consists of 12-foot lanes in each direction. The Town has considered making this street one-way in the past.

3.2 Post Audit Workshop - Key Issues

Intersection of Route 189 and Route 178 and adjacent area:

- Sidewalk condition is poor and should be upgraded.
- Crosswalks are faded and need to be re-striped (Figure 8).
- ADA standards are not currently being met at all of the pedestrian facilities.
- The current use of the exclusive pedestrian phase is required for pedestrian safety, due to the intersection geometry. This includes the adjacent intersection of Wintonbury Avenue and Route 189. As a result, a single pedestrian call will stop vehicle traffic at all intersections. This configuration, while essential for pedestrian safety, highlights the limitations of the current



Figure 8. Faded crosswalk at intersection



Figure 9. Diagonal crosswalk at intersection; poor sidewalk condition



Figure 10. Damaged handicap ramp, no detectable warning strips

intersection design to meet the needs of both vehicles and pedestrians.

- Roundabout concepts are currently being analyzed by CTDOT and community buy-in is needed for the concepts to proceed.
 - A public presentation by CTDOT on the concept(s) is pending.
 - CTDOT should consider enhanced pedestrian measures such as rectangular rapid flashing beacons (RRFB) as part of the design.

Downtown Area:

- The need for mid-block crossings on Jerome Avenue and Park Avenue should be evaluated.
 - Flashing beacons or other enhanced pedestrian safety measures at these locations should be considered if they are constructed.
- Traffic on Jerome Way can overwhelm the signal at rush hour.
- There is future on-street parking proposed for Jerome Avenue.
- The intersection of Jerome Way and Jerome Avenue is proposed to become a 3-way stop in the future.
- The Town is interested to know how many people drive through the Town Center and how many people drive to the Town Center as a destination.
- ADA compliant ramps, detectable warning strips and crosswalks were recently installed at the intersection of Seneca Road and Park Avenue.
- There are many driveways in the study area and access management is a goal moving forward (Figure 11).



Figure 12. Jerome Avenue sidewalk and snow shelf



Figure 11. Deteriorating sidewalk



Figure 13. Several driveways close together

- The Town would like to use decorative lighting, stamped crosswalks, granite curbing and other aesthetically pleasing amenities to enhance the Town Center area.
- The East Coast Greenway may come off the railroad alignment and come through the Town Center area but the final route has not been determined yet.
 - A 12-foot multi-use trail is proposed for the greenway.
- The sidewalk on the north side of Park Avenue ends before the High School (Figure 14).
 - Students do not cross Park Avenue to use the sidewalks on the south side, creating a worn path on the north side (Figure 14). The Town would like to extend the sidewalk on the north side of Park Avenue to accommodate these users.



Figure 14. Worn path on Park Avenue

4 Recommendations

From the discussions during the Post-Audit meeting, the RSA team compiled a set of recommendations that are divided into short-term, mid-term, and long-term categories. For the purposes of the RSA, **Short-term** is understood to mean modifications that can be expected to be completed very quickly, perhaps within six months, and certainly in less than a year if funding is available. These include relatively low-cost alternatives, such as striping and signing, and items that do not require additional study, design, or investigation (such as right-of way acquisition). **Mid-term** recommendations may be more costly and require establishment of a funding source, or they may need some additional study or design in order to be accomplished. Nonetheless, they are relatively quick turn-around items, and should not require significant lengths of time before they can be implemented. Generally, they should be completed within a window of eighteen months to two years if funding is available. **Long-term** improvements are those that require substantial study and engineering, and may require significant funding mechanisms and/or right-of-way acquisition. These projects generally fall into a horizon of two or more years when funding is available.

4.1 Short Term

1. Restripe the crosswalks at the intersection of Route 189 and Route 178 with reflective paint.

- 2. Restripe Route 189 and Route 178 with 11-foot lanes to provide wider shoulders.
- 3. Replace any of the non-bike friendly catch basin grates on state roads and Town to replace any of the non-bike friendly grates on town roads.
- 4. CTDOT and Town to continue to evaluate and pursue Route 189/Route 178 roundabout concept.

Figure 15 depicts some of these recommendations.

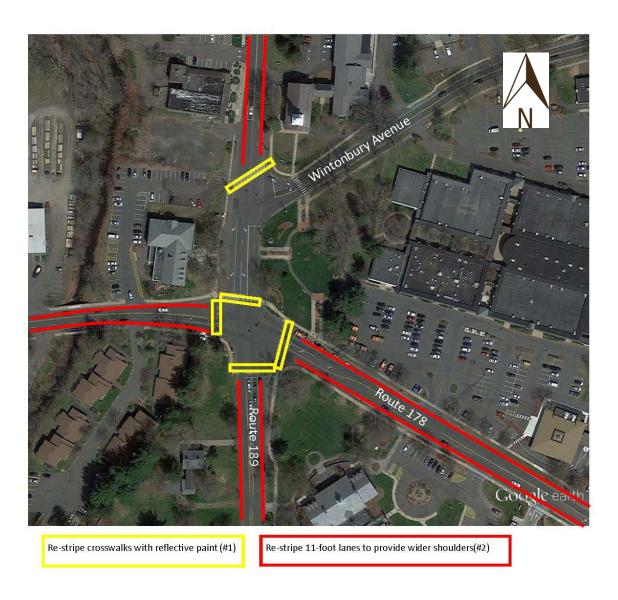


Figure 15. Short term recommendations

4.2 Medium Term

- Town to coordinate with CTDOT to evaluate potential mid-block crosswalk on Route 178 at the Town Hall and Town to evaluate potential mid-block crosswalk on Jerome Avenue at the post office. Rectangular rapid flashing beacons (RRFB) or other advanced pedestrian safety measures should be considered as part of mid-block crossings (Figure 16).
- 2. Town to coordinate with CTDOT to consider realigning the skewed crosswalk on Tunxis Avenue at Wintonbury Avenue.
- 3. Town to coordinate with CTDOT to consider advanced pedestrian safety features such as RRFB as part of any roundabout design at the intersection of Route 189 and Route 178 (Figure 16).
- 4. Town to develop a pedestrian and bike plan for the study area.
- 5. Town to upgrade all pedestrian crossings to meet current ADA standards including installing detectable warning strips, audible pushbuttons and countdown pedestrian signals.
- 6. Town to extend the sidewalk on the north side of Park Avenue to connect with the High School.

Figure 17 and Figure 18 depict some of the recommendations.



Figure 16. Rectangular Rapid Flashing Beacon (RRFB)

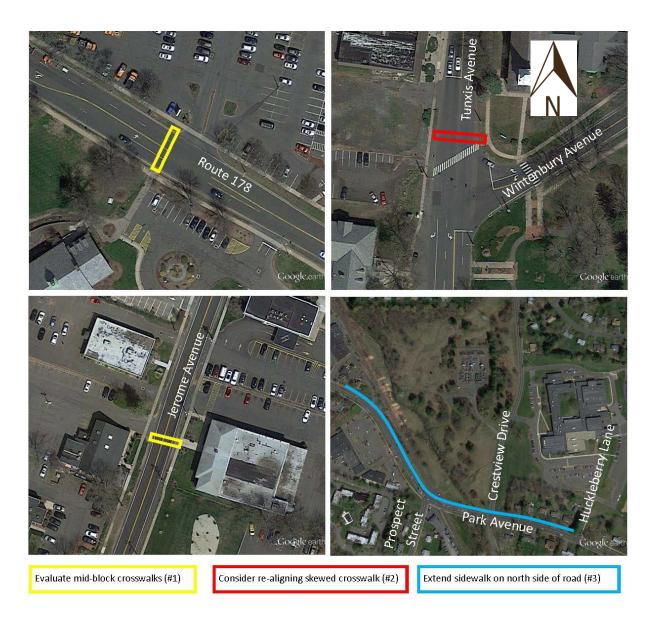


Figure 17. Medium term recommendations



Upgrade pedestrian crossings to meet current ADA standards including installing detectable warning strips, audible pushbuttons and countdown pedestrian signals (#5)

Figure 18. Medium term recommendations (continued)

4.3 Long Term

- 1. Town to upgrade and repair damaged and deteriorating sidewalks. Areas that were noted as being in most need of upgrade and repair include:
 - a. Surrounding the intersection of Route 178 and Route 189.
 - b. The south side of Route 178, especially approaching the High School and near Town Hall.
 - c. The east side of Jerome Avenue.
- 2. Town to coordinate with property owners to consolidate driveways where possible.
- 3. Town to coordinate with CTDOT to reconstruct intersection of Route 189 and Route 178 (including adjacent intersection of Wintonbury Avenue and Route 189) as a roundabout or series of roundabouts.

Figure 19 depicts some of these recommendations.

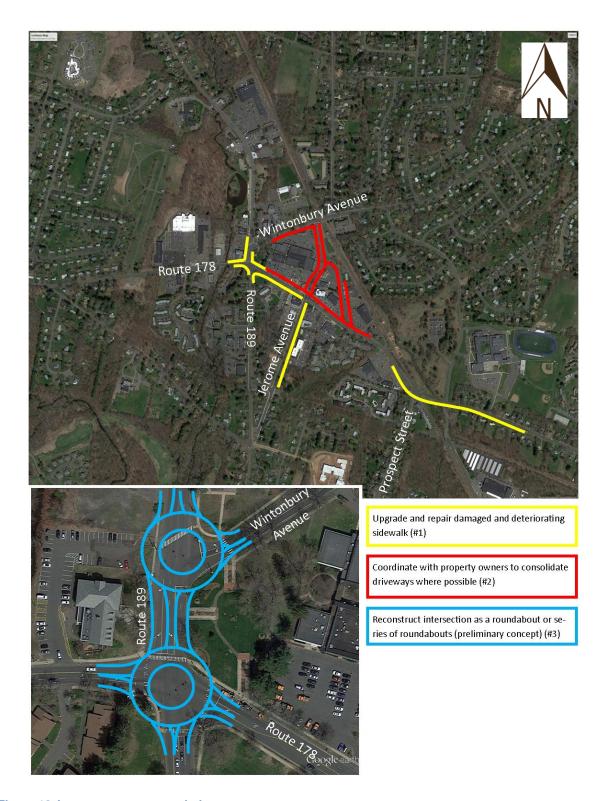


Figure 19. Long term recommendations

4.4 Summary

This report documents the observations, discussions and recommendations developed during the successful completion of the Town of Bloomfield RSA. It provides Bloomfield with an outlined strategy to improve the transportation network for all road users at the intersection of Route 189 and Route 178 and in the surrounding downtown area, particularly focusing on pedestrians and cyclists. Moving forward, Bloomfield may use this report to prepare strategies for funding and implementing the improvements, and as a tool to plan for including these recommendations into future development.



Appendix A





Welcome to the Community Connectivity Program Application



Please fill in the following information to provide the Audit team leaders with a comprehensive description of the area contained in this application.

1. Applicant contact information

Name	
Title	
Email Address	
Telephone	
Number	
2. Location infor	nation
Address	
Description	
City / Town	

State r	oad		
Local	oad		
Private	Road		
Other (please specify)		
4. Zoning (Please	select all that apply)		
Indust	ial		
Reside	ntial		
Comm	ercial		
Mixed	Jse		
Retail			
N/A (ne	et applicable)		
Other (please specify)		
5. Approx	imate mile radius around the I	ocation	

Community Centers
Business Districts
Restaurant/Bar Districts
Churches
Housing Complexes
Proximity to Schools
Tourist Locations (examples – Casino, Malls, Parks, Aquarium, etc)
N/A (not applicable)
Other (please specify)
Employment Facilities (Retail, Industrial, etc)
No
If Yes please describe (please specify)

Public, Paroc	hial, Private Schools (mor	e than 1 school wi	thin a ½ mile)	
University / 0	Community Colleges			
N/A (not appl	cable)			
Other (please	specify)			
9. Transit facil				
(Please selec	t all that apply)			
Bus				
Rail				
Ferry				
Airport				
Park and Ride	. Lot			
N/A (not appli				
Other (please	specify)			

Traffic (volumes & speed)
Collisions
Sidewalks
Traffic Signals
Traffic Signs
Parking Restrictions / Additions
Drainage
ADA Accommodations
Agricultural & Live Stock crossing
Maintenance issues (cutting grass, leaves, snow removal)
N/A (not applicable)
Other (please specify)

If Yes please de	scribe and list all _l	projects.		
n ree predect de		<u> </u>		

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If Yes please desc	ribe and list.		

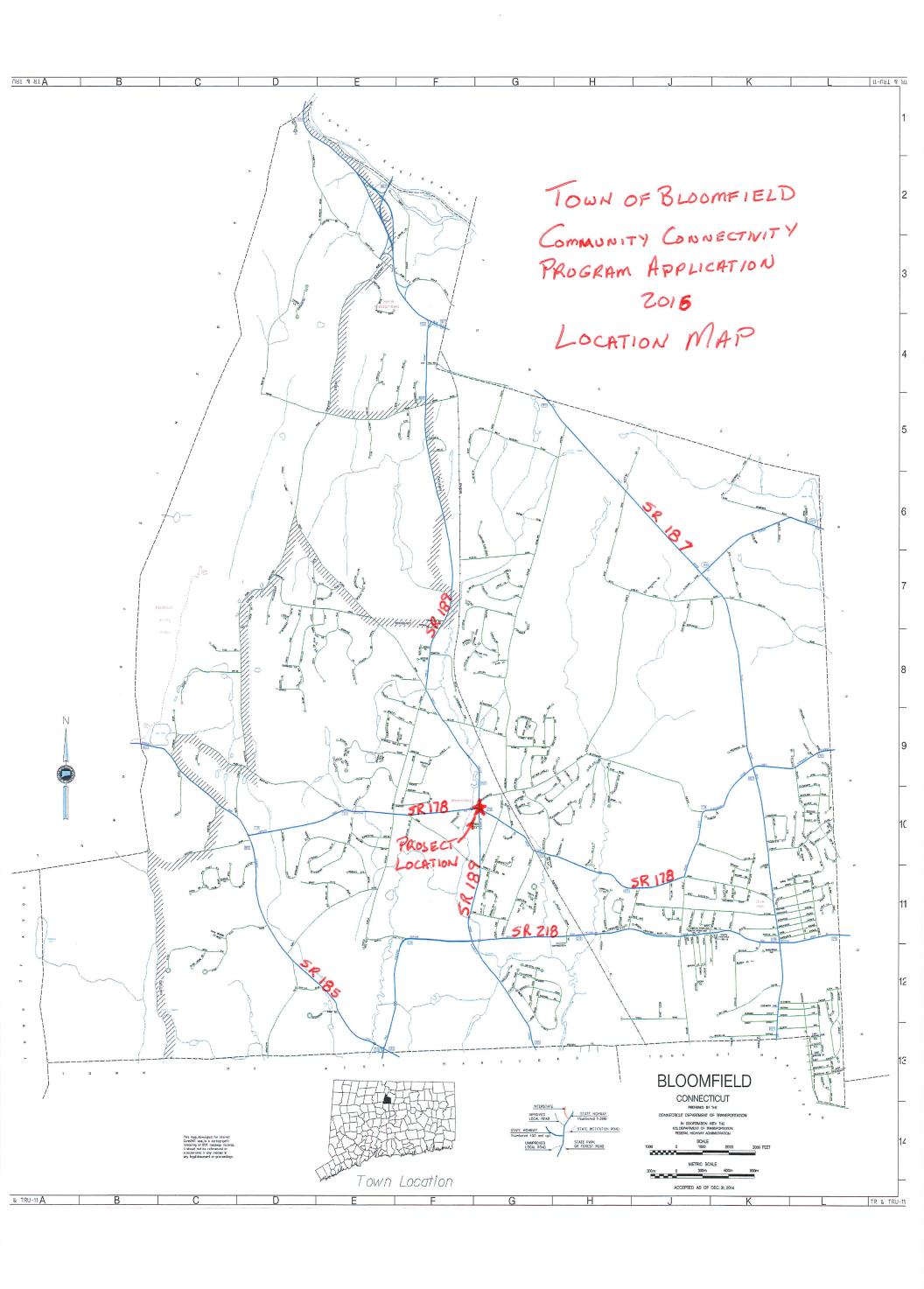
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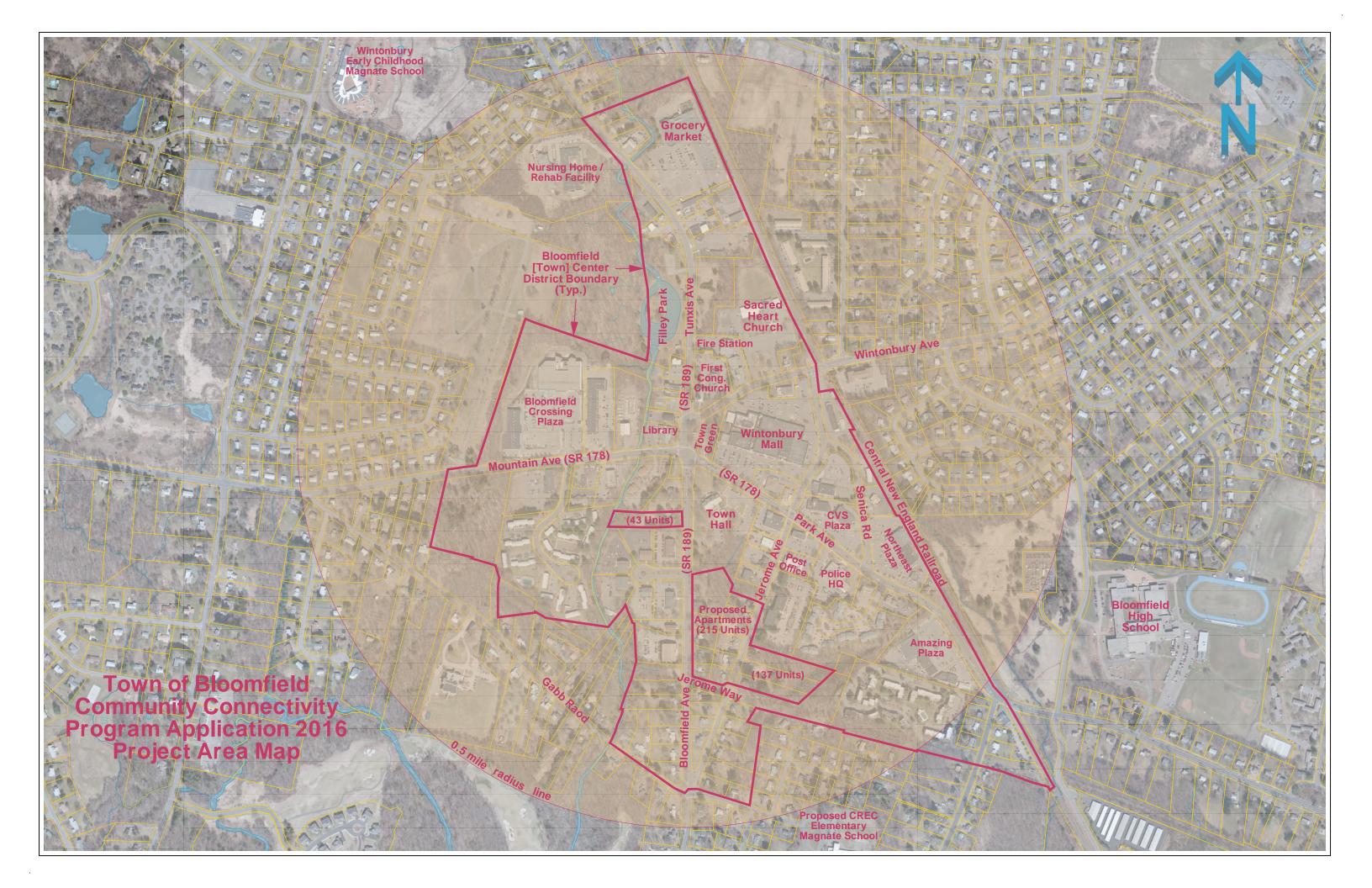
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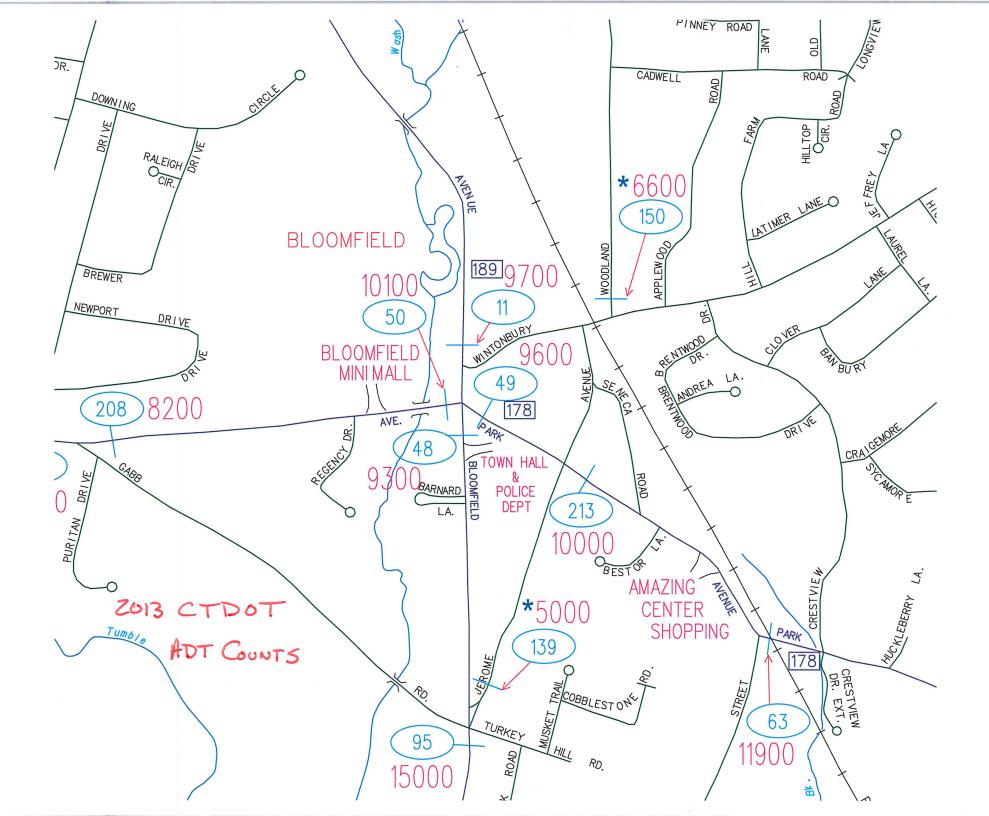
Thank you for completing the Community Connectivity application.

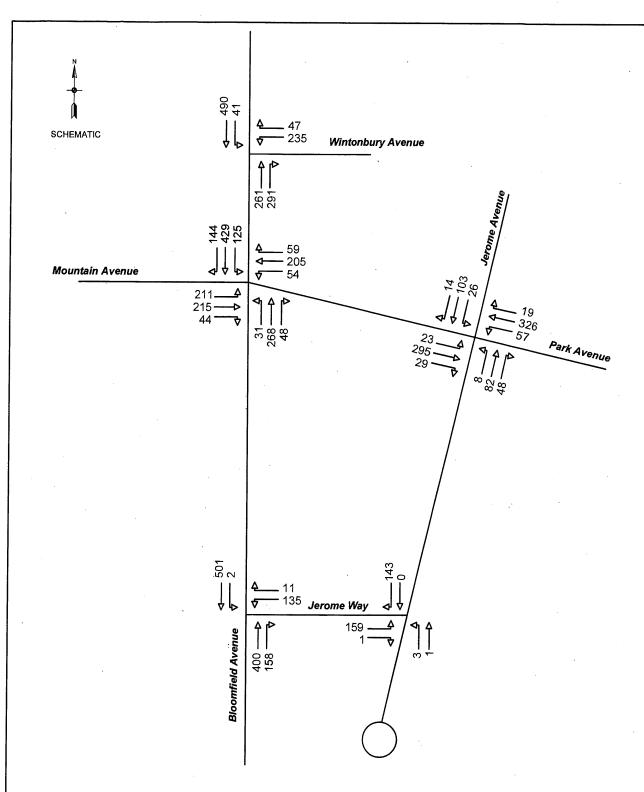
Please click on the "submit button" below and include the following attachments

- 1 Location map (google, GIS) (Required)
- 2 Collision data (If available)
- 3 Traffic data (ADT or VMT) (If available)
- 4 Pedestrian/bicycle data (If available)



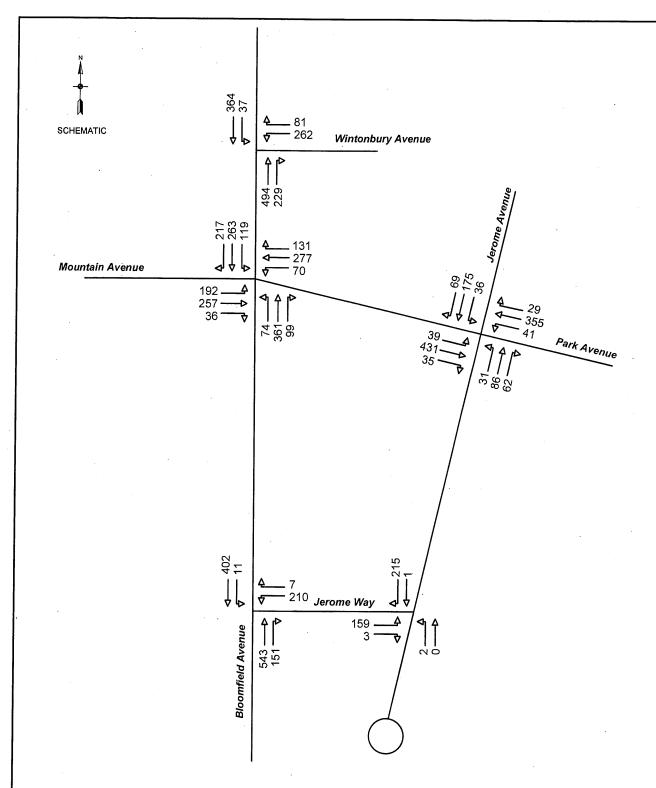






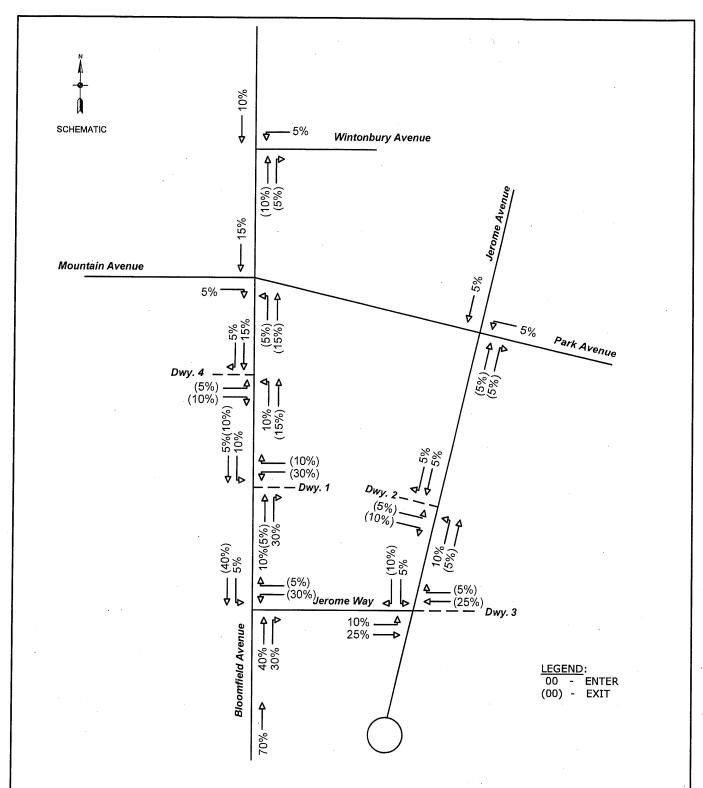
2014 EXISTING TRAFFIC VOLUMES WEEKDAY MORNING PEAK HOUR





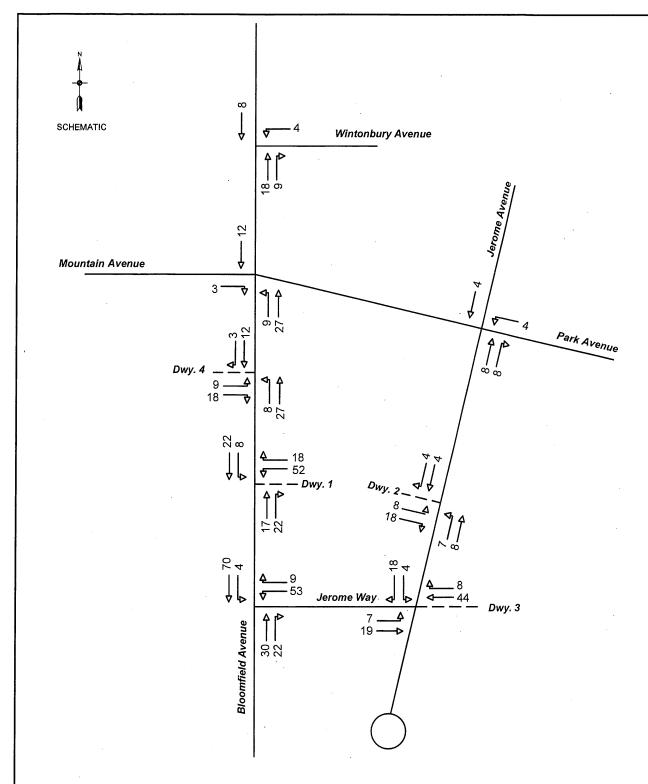
2014 EXISTING TRAFFIC VOLUMES WEEKDAY AFTERNOON PEAK HOUR





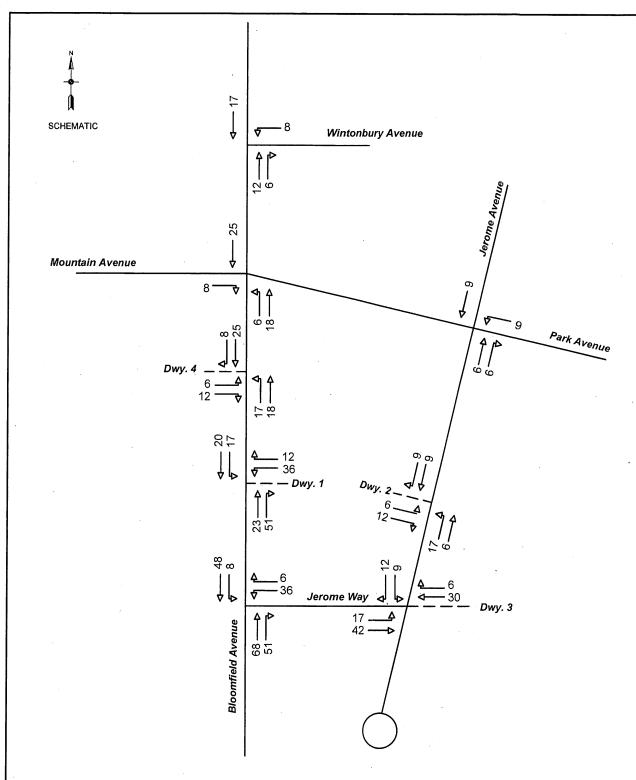
SITE TRAFFIC DISTRIBUTION



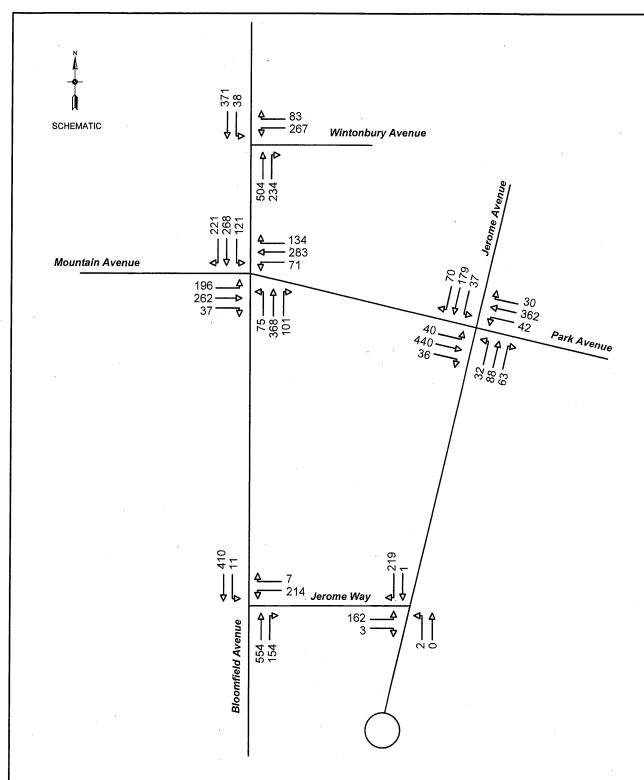


SITE TRAFFIC VOLUMES WEEKDAY MORNING PEAK HOUR

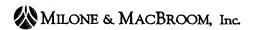


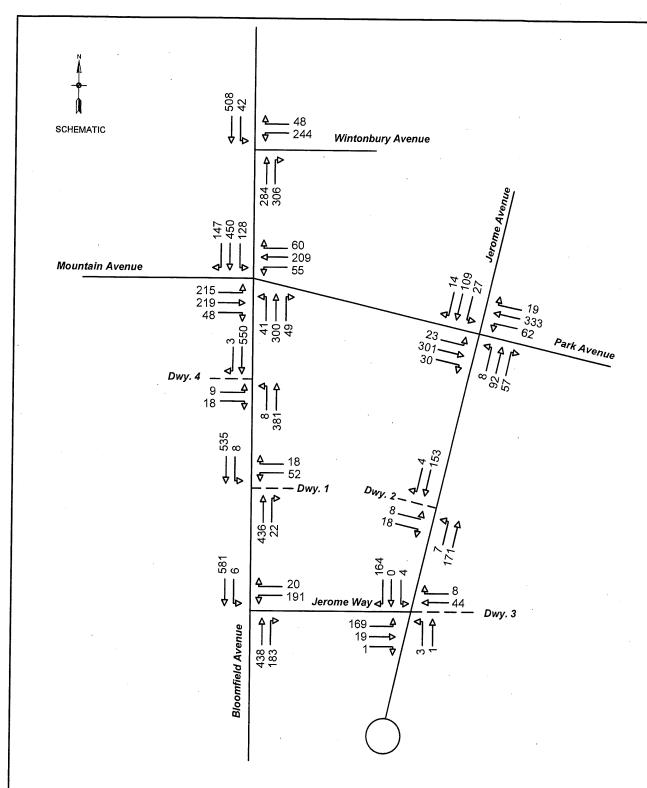


SITE TRAFFIC VOLUMES WEEKDAY AFTERNOON PEAK HOUR



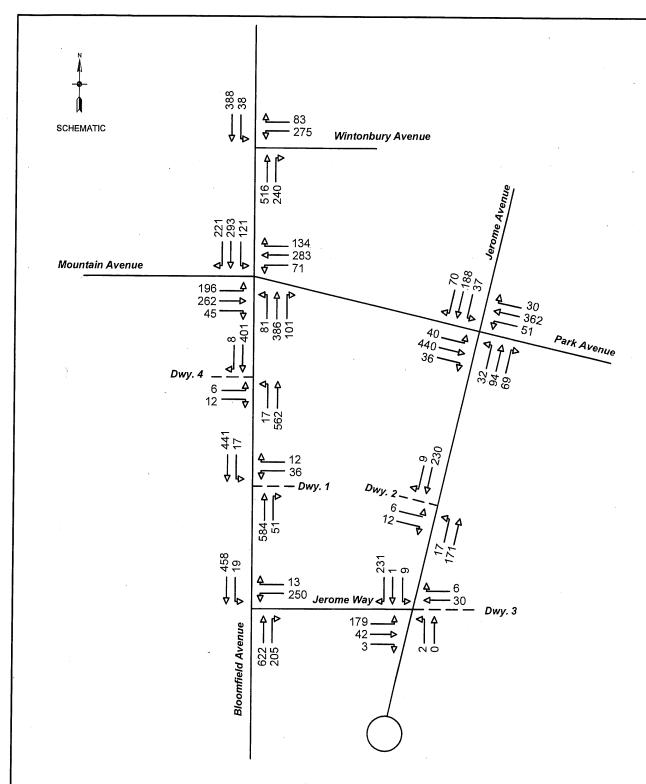
2016 BACKGROUND TRAFFIC VOLUMES WEEKDAY AFTERNOON PEAK HOUR





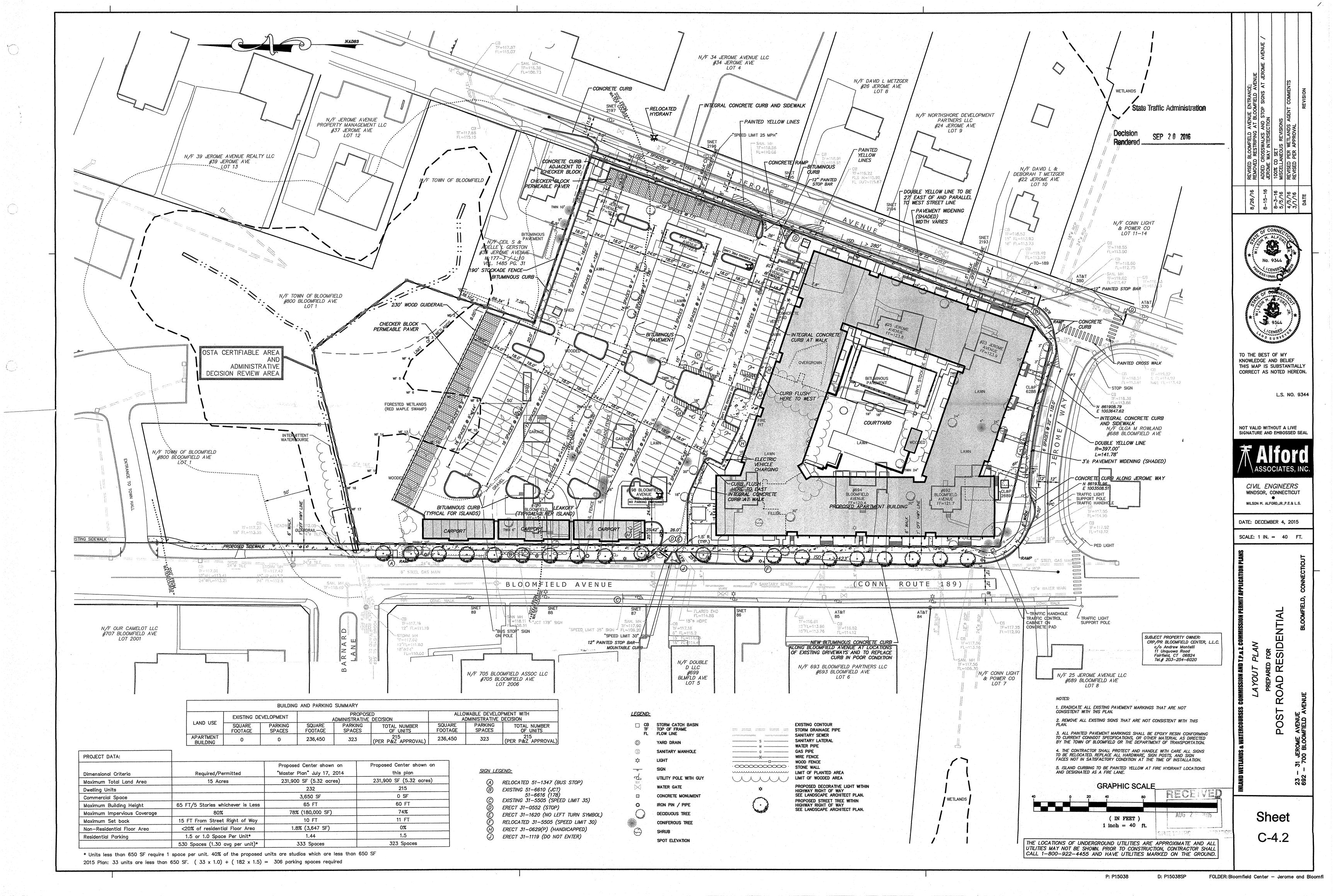
2016 COMBINED TRAFFIC VOLUMES WEEKDAY MORNING PEAK HOUR





2016 COMBINED TRAFFIC VOLUMES WEEKDAY AFTERNOON PEAK HOUR







Appendix B









Road Safety Audit

Town: Bloomfield

RSA Location: Rt 178/Rt 189 Intersection

Meeting Location:Town Hall – Conference Room 2 (1st Floor)Address:800 Bloomfield Avenue, Bloomfield, CT 06002

Date: 11/3/2016 **Time:** 8:30 AM

Participating Audit Team Members

Audit Team Member	Agency/Organization
Brad Sabean	Aecom
Anna Bergeron	CTDOT
Jonathan thiesse	Bloomfield Engineering
Stephen Hajdasz	Bloomfield PD
Mike Wulforst	Aecom
Michael Bononi	Bloomfield EDC
Bonnie Bercowetz	Bloomfield EDC
Grayson Wright	CTDOT
Fred Hesketch	Bloomfield EDC
John Lawlor	Bloomfield Public Works
Jose Giner	Bloomfield Planning & Ec. Dev
Joe Merritt	Town Council
Dale Bertoldi	Ironwd Comm Prtnr
Vikki reski	Ironwd Comm Prtnr



Appendix C









Road Safety Audit – Bloomfield

Meeting Location: Town Hall – Conference Room 2 (1st Floor) **Address:** 800 Bloomfield Avenue, Bloomfield, CT 06002

Date: 11/3/2016 **Time:** 8:30 AM

<u>Agenda</u>

Type of Meeting: Road Safety Audit – Pedestrian Safety

Attendees: Invited Participants to Comprise a Multidisciplinary Team

Please Bring: Thoughts and Enthusiasm!!

8:30 AM Welcome and Introductions

Purpose and Goals

Agenda

8:45 AM Pre-Audit

Definition of Study Area

Review Site Specific Data:

Average Daily Traffic

Crash Data

Geometrics

Issues

Safety Procedures

10:00 AM Audit

Visit Site

As a group, identify areas for improvements

12:00 PM Post-Audit Discussion / Completion of RSA

Discussion observations and finalize findings

Discuss potential improvements and final recommendations

Next Steps

2:30 PM Adjourn for the Day – but the RSA has not ended

Instruction for Participants:

- Before attending the RSA, participants are encouraged to observe the intersection and complete/consider elements on the RSA Prompt List with a focus on safety.
- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, but are reminded that the synergy that develops and respect for others' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.





Audit Checklist

Pedestrians and Bicycles	Comment
Pedestrian Crossings Sufficient time to cross (signal) Signage Pavement Markings Detectable warning devices (signal) Adequate sight distance Wheelchair accessible ramps Grades Orientation Tactile Warning Strips Pedestrian refuge at islands Other	
Pedestrian Facilities	
 Sidewalk Width Grade Materials/Condition Drainage Buffer Pedestrian lighting Pedestrian amenities (benches, trash receptacles) Other 	





Bicycles

- Bicycle facilities/design
- Separation from traffic
- · Conflicts with on-street parking
- Pedestrian Conflicts
- Bicycle signal detection
- Visibility
- Roadway speed limit
- Bicycle signage/markings
- Shared Lane Width
- Shoulder condition/width
- Traffic volume
- Heavy vehicles
- Pavement condition
- Other

Intersections

- Geometrics
- o Sight Distance
- Traffic control devices
- Safe storage for turning vehicles

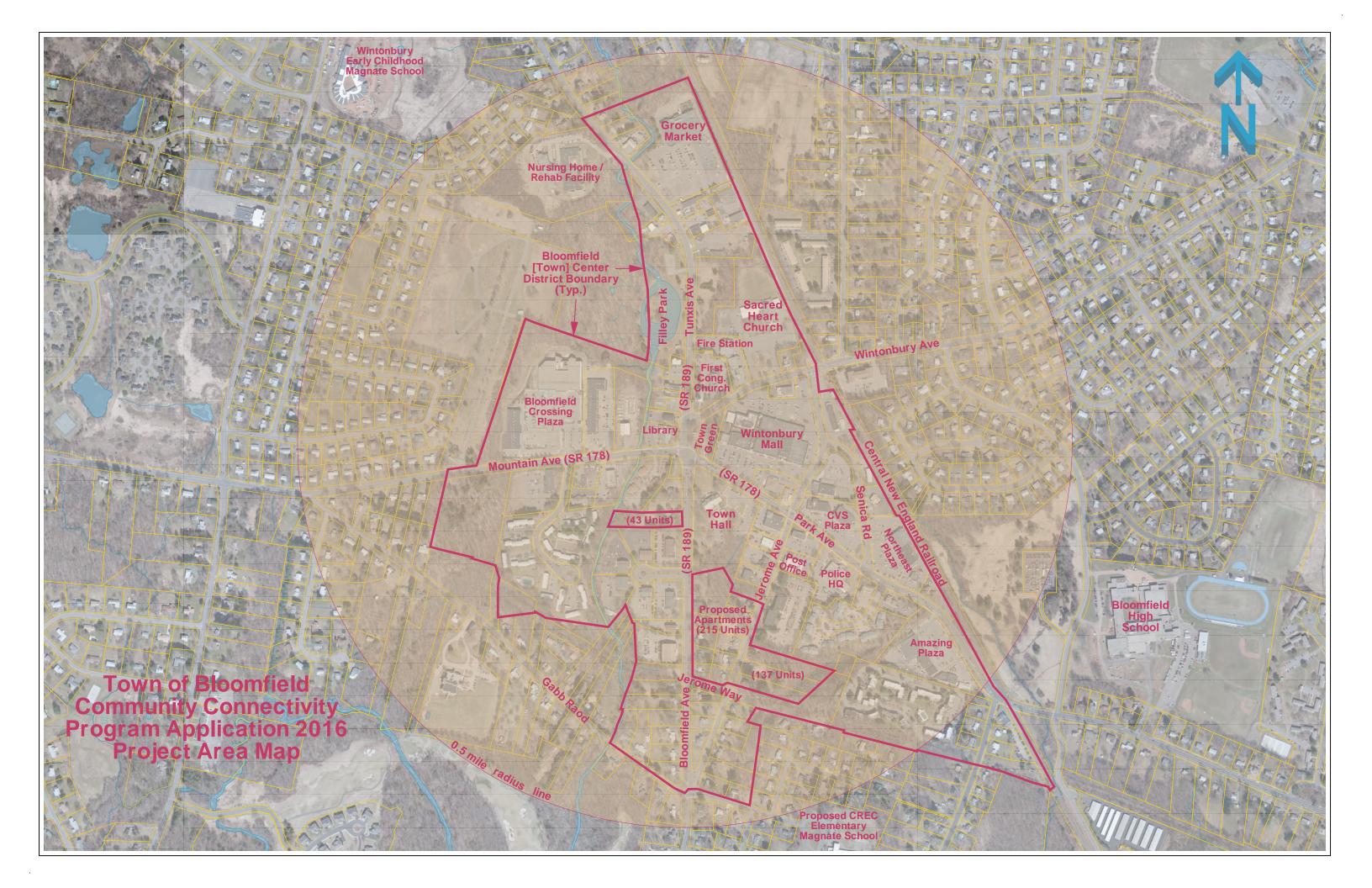
Guide rails / protection systems

Capacity Issues

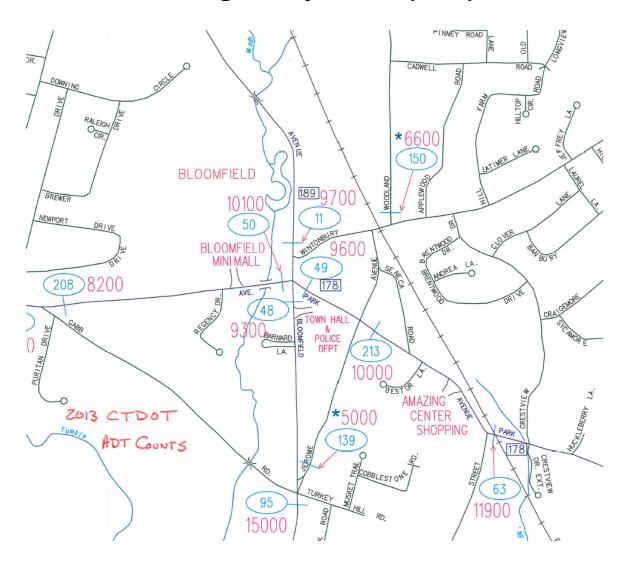




 Pavement Pavement Condition (excessive roughness or rutting, potholes, loose material) Edge drop-offs Drainage issues Lighting Adequacy 	
 Signing Correct use of signing Clear Message Good placement for visibility Adequate retroreflectivity Proper support 	
 Signals Proper visibility Proper operation Efficient operation Safe placement of equipment Proper sight distance Adequate capacity 	
 Pavement Markings Correct and consistent with MUTCD Adequate visibility Condition Edgelines provided 	
 Miscellaneous Weather conditions impact on design features. Snow storage 	



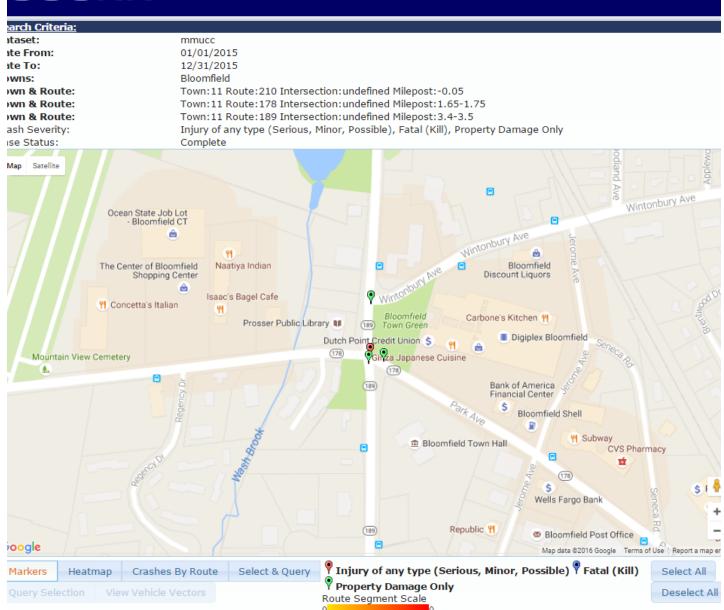
Average Daily Traffic (ADT)



2015 Crashes

UCONN

Connecticut Crash Data Repository







Road Safety Audit – Bloomfield

Crash Summary

Data: 3 years (2012-2014)

There were no crashes that involved pedestrians.

There were no crashes involving bicyclists.

Severity Type	Number of Crashes	
Property Damage Only	40	82%
Injury (No fatality)	9	18%
Fatality	0	0%
Total	49	

Manner of Crash / Collision Impact	Number of C	rashes
Unknown	0	0%
Sideswipe-Same Direction	3	6%
Rear-end	27	55%
Turning-Intersecting Paths	3	6%
Turning-Opposite Direction	7	14%
Fixed Object	4	8%
Backing	0	0%
Angle	3	6%
Turning-Same Direction	1	2%
Moving Object	0	0%
Parking	0	0%
Pedestrian	0	0%
Overturn	1	2%
Head-on	0	0%
Sideswipe-Opposite Direction	0	0%
Miscellaneous- Non Collision	0	0%
Total	49	





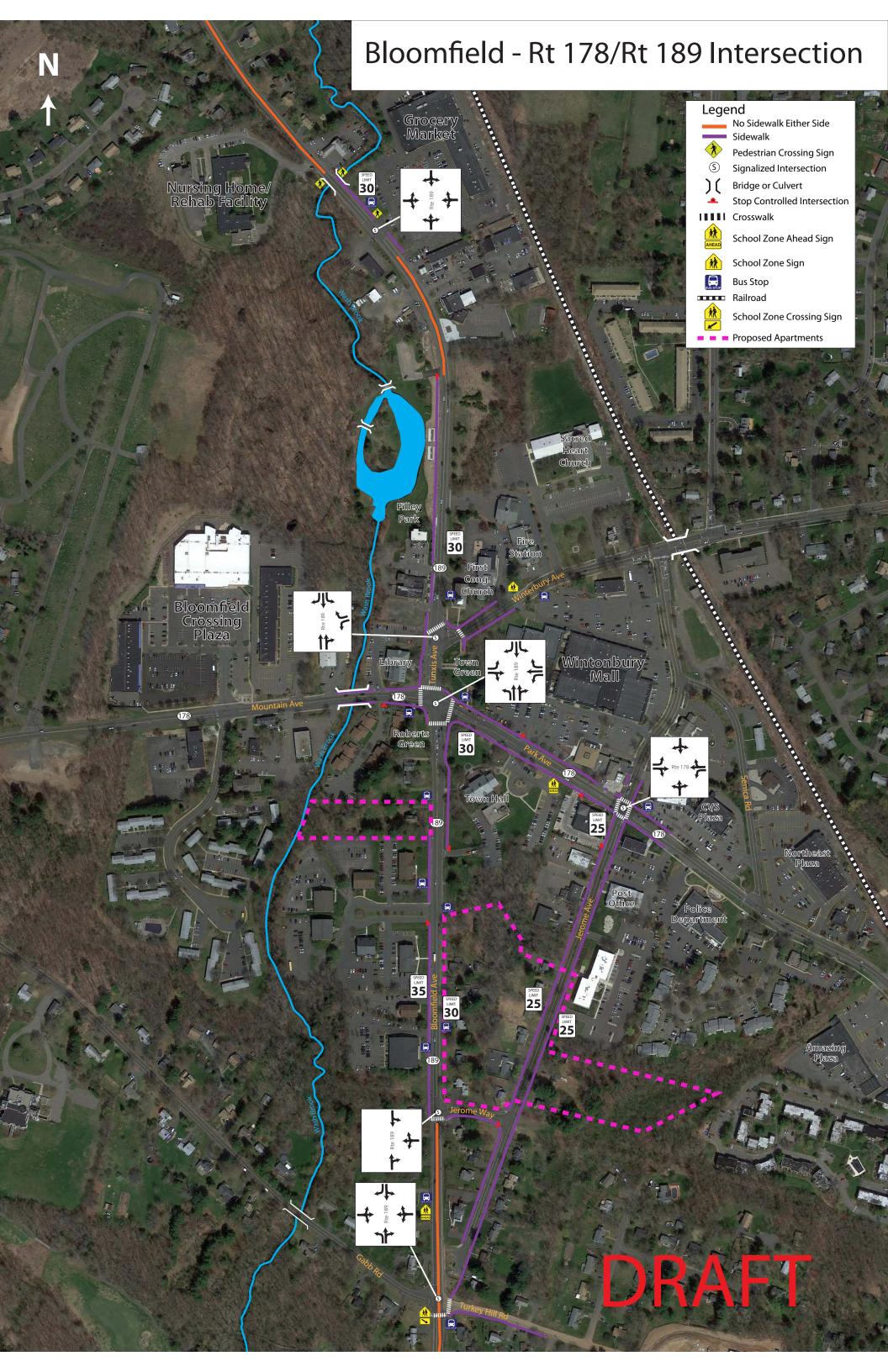
Weather Condition	Number of	Crashes
Snow	0	0%
Rain	6	12%
No Adverse Condition	42	86%
Unknown	1	2%
Fog	0	0%
Other	0	0%
Blowing Sand, Soil, Dirt or		
Snow	0	0%
Severe Crosswinds	0	0%
Sleet, Hail	0	0%
Total	49	

Light Condition	Number of Crashes	
Dark-Not Lighted	3	6%
Dark-Lighted	8	16%
Daylight	38	78%
Dusk	0	0%
Unknown	0	0%
Dawn	0	0%
Total	49	

Road Surface Condition	Number of Crashes	
Snow/Slush	0	0%
Wet	7	14%
Dry	41	84%
Unknown	1	2%
Ice	0	0%
Other	0	0.0%
Total	49	



Time		Number of Ci	rashes
0:00	0:59	1	2%
1:00	1:59	0	0%
2:00	2:59	0	0%
3:00	3:59	1	2%
4:00	4:59	0	0%
5:00	5:59	0	0%
6:00	6:59	1	2%
7:00	7:59	3	6%
8:00	8:59	1	2%
9:00	9:59	1	2%
10:00	10:59	2	4%
11:00	11:59	5	10%
12:00	12:59	4	8%
13:00	13:59	1	2%
14:00	14:59	2	4%
15:00	15:59	5	10%
16:00	16:59	8	16%
17:00	17:59	8	16%
18:00	18:59	2	4%
19:00	19:59	0	0%
20:00	20:59	0	0%
21:00	21:59	1	2%
22:00	22:59	2	4%
23:00	23:59	1	2%
Total		49	







Post-Audit Discussion Guide

Safety Issues

• Confirmation of safety issues identified during walking audit

Potential Countermeasures

• Short Term recommendations

• Medium Term recommendations

• Long Term recommendations

Next Steps

• Discussion regarding responsibilities for implementing the countermeasures (including funding)





Road Safety Audit - Bloomfield

Fact Sheet

Functional Classification:

 SR 178 and SR 189 are classified as Minor Arterial

ADT

ADT on SR 178 is 10,100 and SR 189 is 9,700

Population and Employment Data (2014):

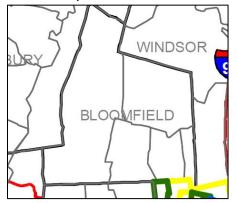
Population: 20,626Employment: 19,272

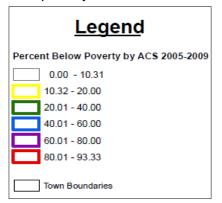
Urbanized Area

· Bloomfield is in the Hartford Urbanized Area

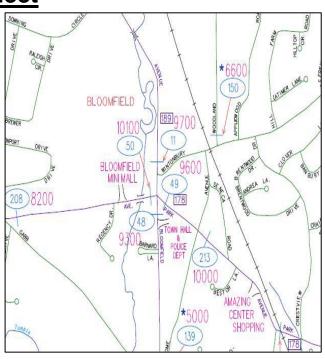
Demographics

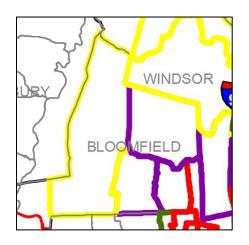
The statewide average percentage below the poverty line is 10.31%. Within the vicinity of SR 178 and SR 189 up to 10% of residents are below the poverty line.

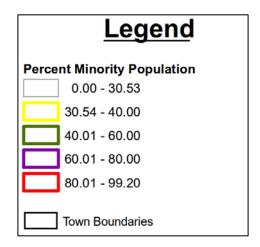




• The statewide average percentage minority population is 30.53%. Within the vicinity of SR 178 and SR 189 up to 80% of residents are minorities.







Air Quality

- Bloomfield's CIPP number 203
- Bloomfield is within the Greater CT Marginal Ozone Area
- Bloomfield is within a CO Attainment Area